DOCUMENT RESUME

ED 317 044 FL 018 382

AUTHOR Yuen, Steve Chi-Yin
TITLE Computer Assisted Instruction: A Handbook for ESL Teachers.
PUB DATE 89
NOTE 76p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; *Computer Software; *English (Second Language); Floppy Disks; Instructional Material Evaluation; Language Teachers; Media Selection; *Microcomputers; Organizations (Groups); Second Language Instruction; Teaching Guides
IDENTIFIERS *Apple IIe; University of Southern Mississippi

ABSTRACT

This handbook for computer-assisted instruction in English as a Second Language (ESL) is designed to guide teachers unfamiliar with computer hardware and software through the basic procedures of using the Apple IIe system and ESL software. The handbook begins with introductory sections on the growth of microcomputer use in schools, the advantages and disadvantages of computer use, and the variety of known uses of the computer. The components and care of the Apple IIe, the use and care of diskettes, and starting up the computer are described and illustrated. Brief notes are provided on running an ESL demonstration program, stopping a program, and initializing a diskette. Assistance in evaluating and selecting instructional software is provided through a list of nine instructional considerations, a brief list of sources of further information, and a software evaluation checklist. Additional materials included are a computer glossary, a list of organizations related to microcomputers and education, lists of related periodicals and software vendors, sources of public domain vendors, and an annotated list of ESL software available at the University of Southern Mississippi. (MSE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED317044

Computer Assisted Instruction:

A Handbook for ESL Teachers

by

Steve Chi-Yin Yuen, Ph.D.

Associate Professor

Department of Business and Industrial Education

University of Southern Mississippi

Southern Station, Box 5036

Hattiesburg, MS 39406

FL018382

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Yuen S.

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Summer, 1989

BEST COPY AVAILABLE

TABLE OF CONTENTS

	Page
INTRODUCTION	1
COMPUTER-ASSISTED INSTRUCTION	3
USE OF MICROCOMPUTERS IN SCHOOL	7
COMPONENTS OF A MICROCOMPUTER	8
BASIC PARTS OF THE APPLE IIE SYSTEM	11
CARE OF THE APPLE IIE SYSTEM	16
CARE OF DISKETTES	17
HOW TO START YOUR COMPUTER	19
TURNING OFF THE COMPUTER	21
RUNNING THE ESL DEMO DISK	22
NOTES TO THE BEGINNER	25
STOPPING A PROGRAM	26
INITIALIZING A DISK	27
EVALUATING AND SELECTING INSTRUCTIONAL SOFTWARE	29
SAMPLE SOFTWARE EVALUATION FORM	32
COMPUTER GLOSSARY	35
SELECTED ORGANIZATIONS RELATED TO MICROCOMPUTERS AND EDUCATION	38
PUBLICATIONS	41
SAMPLE LISTING OF SOFTWARE VENDORS	44
PUBLIC DOMAIN SOFTWARE	49
LIST OF ESL SOFTWARE INVENTORY AT USM	50
PROGRAM INFORMATION	51

INTRODUCTION

The microcomputer prevails today in science, business and industry, and the use of microcomputers in vastly new applications is expected at tremendous rates through the 1990's and into the year of 2000. With the availability of inexpensive microcomputers, their use for instructional purposes has already increased dramatically in the public education domain. Today, there are more than 1.5 million microcomputers in our nation's 100,000 primary and secondary public schools, where they are being used to enhance instruction in basic skills and other curriculum areas, and to streamline administrative management. Virtually all schools have at least some microcomputers, but only a relative few have them in sufficient numbers to provide students with adequate access to a work station.

At present, there is, on average, one microcomputer for every 40 students in the public schools. The projected installed base of 2.8 million microcomputers in 1989 represents an average of one microcomputer for every 15 students, still a fairly high ratio. This ratio needs to be further decreased, particularly in environments that emphasize subject-matter mastery for each student.

The growth of microcomputers in the home will greatly magnify the potential for technology to improve learning. There are currently about 10 million microcomputers owned by families. Many of the home computers are and will be used for educational purposes, making it even more important for the schools to be ready to teach computer-literate young people.

The role of the microcomputer has changed significantly since the first microcomputer was introduced to classrooms. In the early days, microcomputers were used primarily for drill and practice and to teach programming. The educational community now relies on microcomputers to boost learning in all areas of the curriculum, manage a learning environment in which learning is tailored to fit each students' needs and progress, developed high-order thinking skills, improve management, and facilities the sharing of information throughout districts and campuses. In each of these applications, teachers have become increasingly sophisticated in their use of microcomputers, even as the microcomputers themselves have become more sophisticated.

COMPUTER-ASSISTED INSTRUCTION

Computer-assisted instruction (CAI) is often used interchangeably with the terms "computer-based instruction," "computer-aided instruction," and "computer-assisted learning." It covers a large number of applications of computers in education. CAI rises from the programmed instruction concepts introduced by Skinner and Crowder and the emerging technology of the computer in the mid 1960's. CAI is a teaching process directly involving the computer in the presentation of instructional materials in an interactive mode to provide and control the individualized learning environment for each individualized student.

There are several forms of CAI: The most common is drill and practice where previously learned information is rehearsed or practiced to obtain mastery. Work in CAI continues to focus on decision models and strategies which use the learner's past performance to decide what new materials should be presented to optimize learning drill and practice. Another common form of CAI is the tutorial, in which the computer guides the student through a program of learning, setting the pace to suit the student. Simulation and gaming are also CAI uses through which students can experience life-like situations and learn the consequences of their own decision making and problem solving behavior. Other forms of CAI include information retrieval and inquiry/dialogue.

CAI is nothing new to the educational scene. Numerous approaches to the use of microcomputers to supplement existing educational practices have been well established and have proven

effective in increasing student achievement. There are several strengths to the use of microcomputers for learning:

* Instruction is highly individualized. A student moves at his or own pace. The student is constantly engaged, constantly challenged, but never threatened.
* The microcomputer assists the teacher as a diagnostic tool for measuring individual strengths and weaknesses. As a student moves through the lessons, the microcomputer records performance information and provides reports to the teachers.
* The individualized learning process is non-threatening to the learner. The microcomputer can be programmed to correct and praise in the ideal way. A session at the microcomputer becomes an exciting game.
* The approach is commonly a supplemental one. The teacher introduces and explains new concepts; the microcomputer gives students practice in using those concepts, provides immediate feedback and reinforcement to the student, and records the scores. The teacher teaches; the microcomputer assists the teacher by generating exercises for the student, collecting performance information, and reporting that information to the teacher.
* The microcomputer is a time-saving device for the teacher. Since it not only generates exercises but also grades those exercises and reports the grades to the teacher, it frees the teacher to spend more time with individual students.

An analysis of 169 research studies by The National Task Force on Educational Technology found that microcomputers were an effective teaching tool at the elementary, secondary, postsecondary, and adult education levels. The study demonstrates that students who have the opportunity to supplement their learning through the use of microcomputers learn more, do better on tests, and get better grades than students who do not have that opportunity. In addition, microcomputers create an environment for learning and bring to each student the advantages of immediate feedback and reinforcement, self-paced instruction, and the potential for strengthening skills in reading and mathematics. The use of microcomputers also enhances students' motivation and self-esteem.

Research has shown increase in motivation, learning rate, and length of retention from microcomputer use for as little as ten minutes a day. To use microcomputers in a classroom, here the things to remember:

Advantage

1. With proper courseware/software, the use of microcomputers motivates students learning and behave.
2. Under some conditions students will learn more by using a microcomputer, and they remember it longer.
3. Microcomputers can provide individual drill for students who need it.
4. Students with problems relating to others often function better at a microcomputer.
5. Microcomputers can make challenging logic games and simulations available to your classroom.

6. Microcomputers can make your teaching more effective.
7. Microcomputers can save your time spent on record keeping.
8. Microcomputers can help you teach by drilling, motivating, or challenging small groups of students.
9. Microcomputers are consistent and cannot get upset.

Disadvantages

1. A microcomputer takes your time to plan for and schedule it use.
2. A microcomputer requires your supervision.
3. A microcomputer can distract other students.
4. Collecting and maintaining a library of programs is expensive and time-consuming.
5. A microcomputer can only be used by a few students at a time.
6. You will need some training to most effectively use the microcomputer.

USES OF MICROCOMPUTERS IN SCHOOL

Microcomputers can function in several capacities in the classroom. These fall generally into 2 broad categories: educational (student-oriented) and management (administrative or teacher-oriented).

Educational Uses

1. drill and practice
2. tutorial
3. simulations
4. problem solving
5. demonstration (animated graphics)
6. programming and computer literacy
7. games (motivation, enrichment)
8. testing

Management Uses

1. testing
2. grading
3. record keeping
4. class management
5. statistics
6. business management (budget, inventory, etc.)
7. word processing

Management uses can save teacher time and effort, allowing more time for student contact and lesson planning. They can sometimes make new capabilities available to the teacher and administrator (statistics, budget forecasting).

COMPONENTS OF A MICROCOMPUTER

A microcomputer is composed of four basic parts: the input unit, memory unit, central processing unit and output unit. The Central Processing Unit (CPU) is considered the "Brain" that manipulates all information and performs all operations. All other components of the microcomputer have interaction with the CPU.

1. INPUT. Input is often the design of a keyboard resembling a typewriter. Input is the way information is put from the outside to the inside of a computer for the purpose of processing. Inputs may also be in the form of cassette, floppy disk, magnetic card, CRT (Cathode Ray Tube), or paper tape reader.

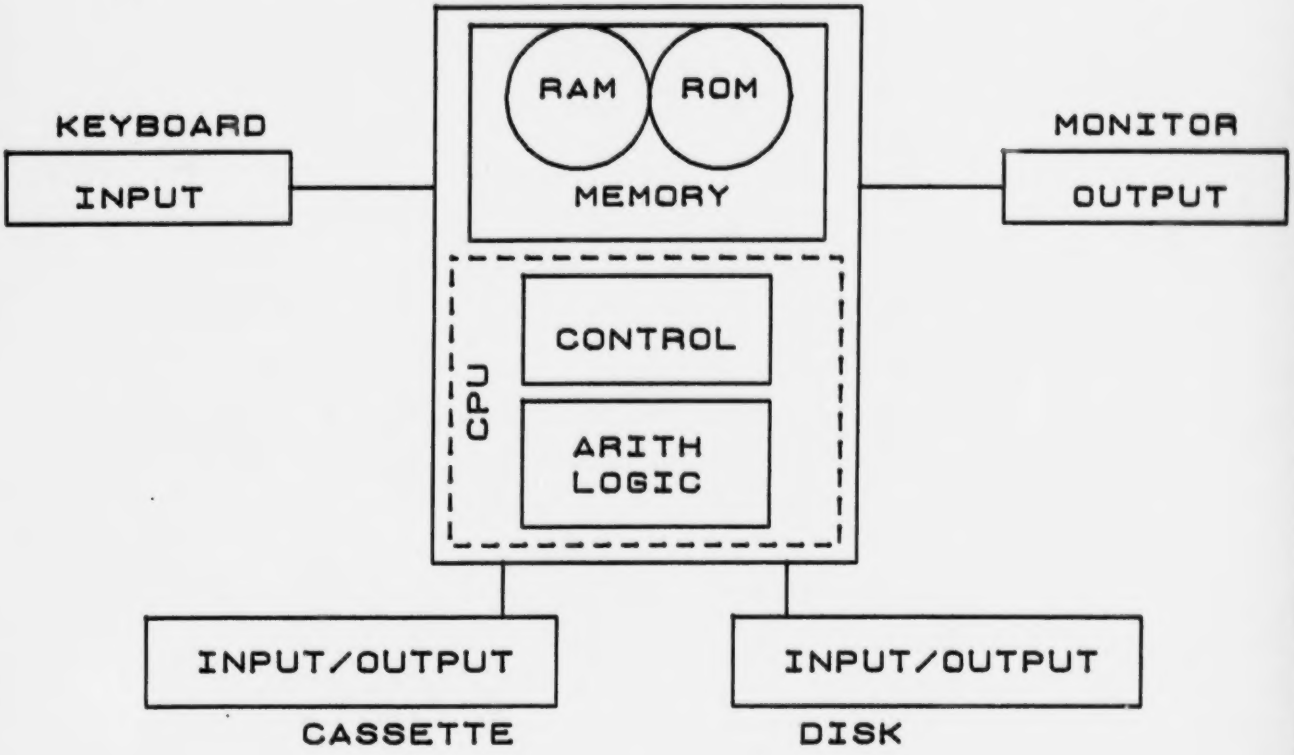
2. MEMORY. Memory is where information is stored. It can be found in two forms. It is found in terms of RAM or ROM. RAM is Random Access Memory which allows the CPU to store and gather data rapidly. RAM can be erased and reprogrammed by the operator as frequently as necessary. Another memory is ROM - Read Only Memory. ROM is an integrated circuit on which data or instructions are programmed at the time of manufacture inside the CPU. It cannot be earned or reprogrammed by normal computer operations. All memory is stated in terms of bytes such as 1K equals 1,024 characters or bytes of information.

3. CPU. CPU conducts all information in and out of the other three parts of the microcomputer. CPU consists of two units: control unit and arithmetic/logic unit. The control unit interprets the instructions received through an input device. As the regulator and manager of the entire system, it may also access and/or utilize

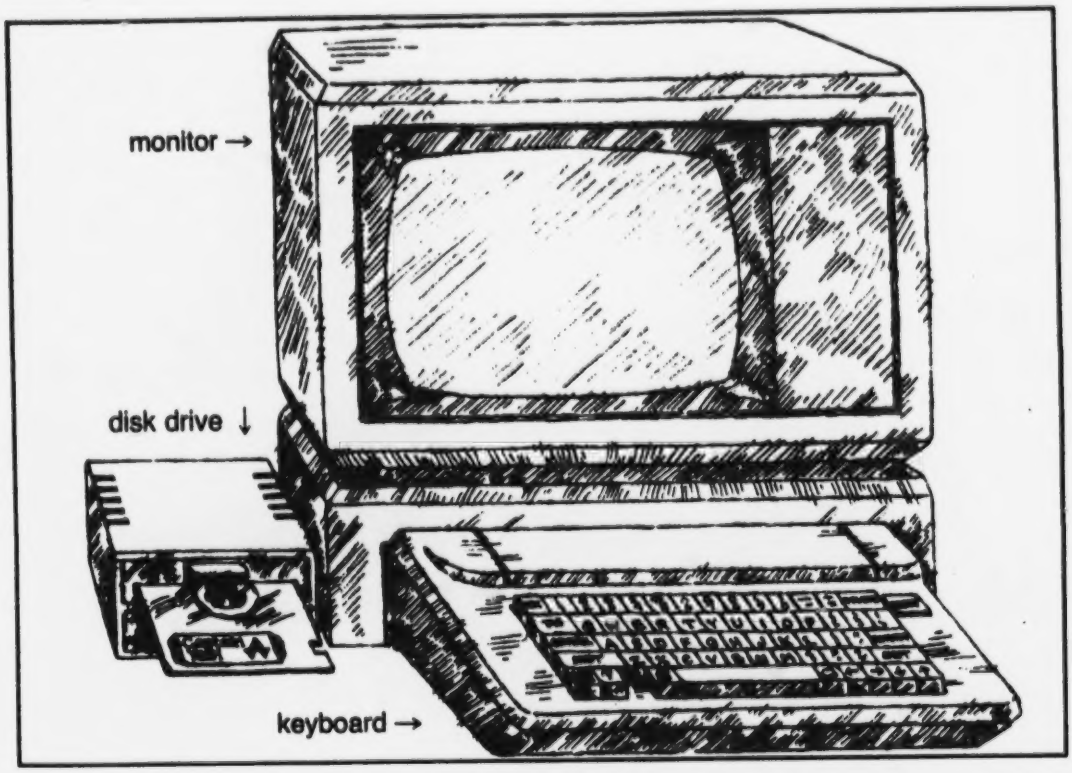
the other units of the CPU. Output devices receive data and instructions from the control unit. The arithmetic/logic unit performs the basic arithmetic operations required to carry out the daily tasks or programs. This unit also performs logic operations, such as comparing two numbers to determine their relative values.

4. OUTPUT. Output is often the same as the input mode. This is where processed information, and results of calculations go out. Outputs come frequently as CRT terminal, printer, magnetic tape, cassette, plotter, disk or other peripherals. Outputs can go through a telephone or cable line.

COMPONENTS OF A MICROCOMPUTER



BASIC PARTS OF THE APPLE IIE SYSTEM



There are seven basic hardware components to the Apple IIe system. Your system may have more components, but the most important parts are:

1. The 6502 processor. The processor carries out sequences of instructions stored in an area of computer's main memory.

2. Main memory. This is where the Apple IIe stores programs when it is running them. The portion of main memory not occupied by

current running programs is available for storing information entered at the keyboard or other information the program is working on.

3. The built-in keyboard. This is your most important means of sending information to the computer. You can type text or control characters.

4. The built-in speaker. The computer uses the speaker for sound effects: for example, a beep to indicate a successful startup or an unrecognized command. The speaker can also produce musical tones.

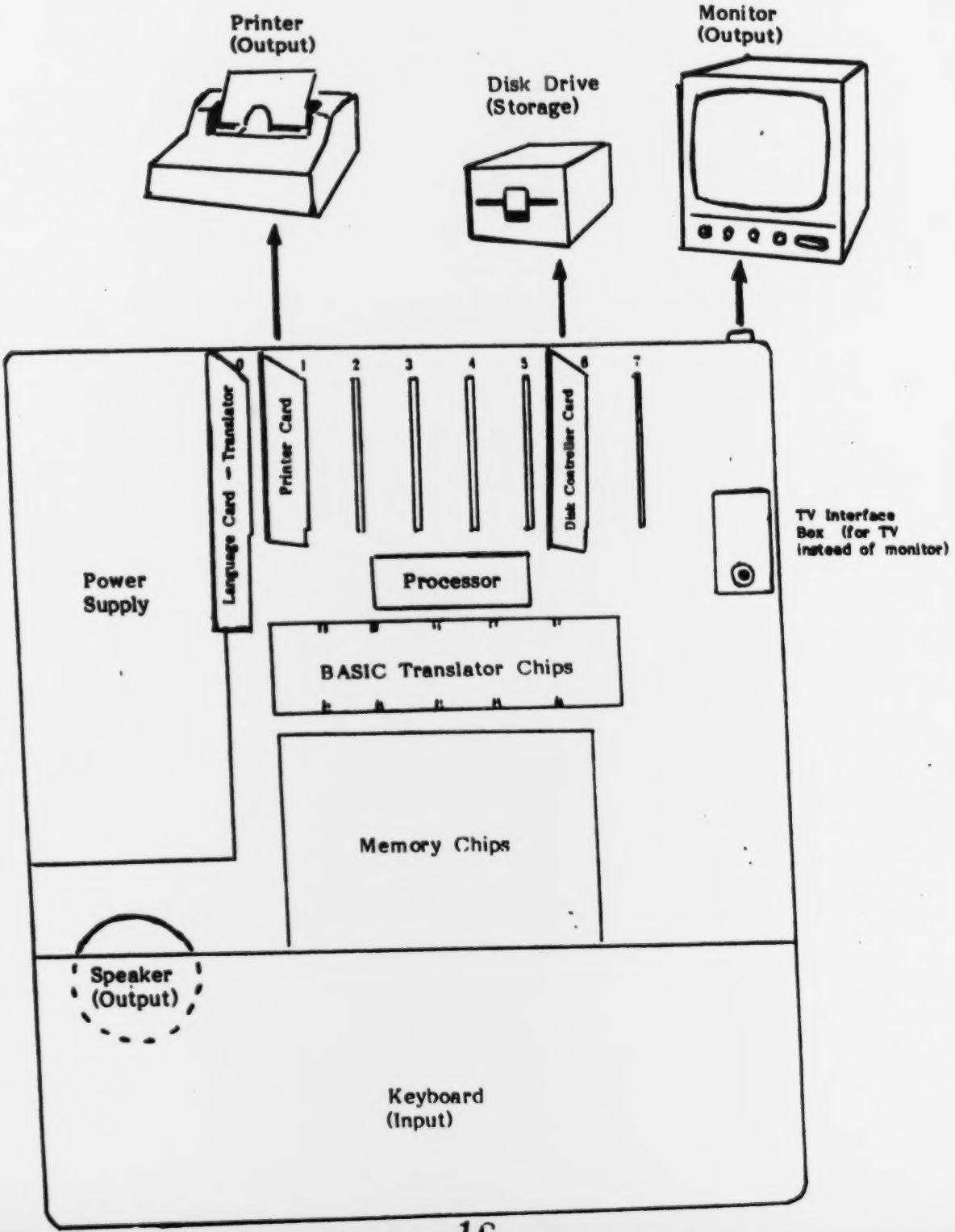
5. A display device. This is the computer's means of conveying information to you, either in words and numbers or in graphics.

6. A disk drive. A disk drive reads and writes information on a magnetic disk for repeated use, much the way a tape recorder plays back and records music.

7. Floppy disks. These are to a disk drive what tapes are to a tape recorder. Some disks have programs or other information already recorded on them. Other disks are completely blank.

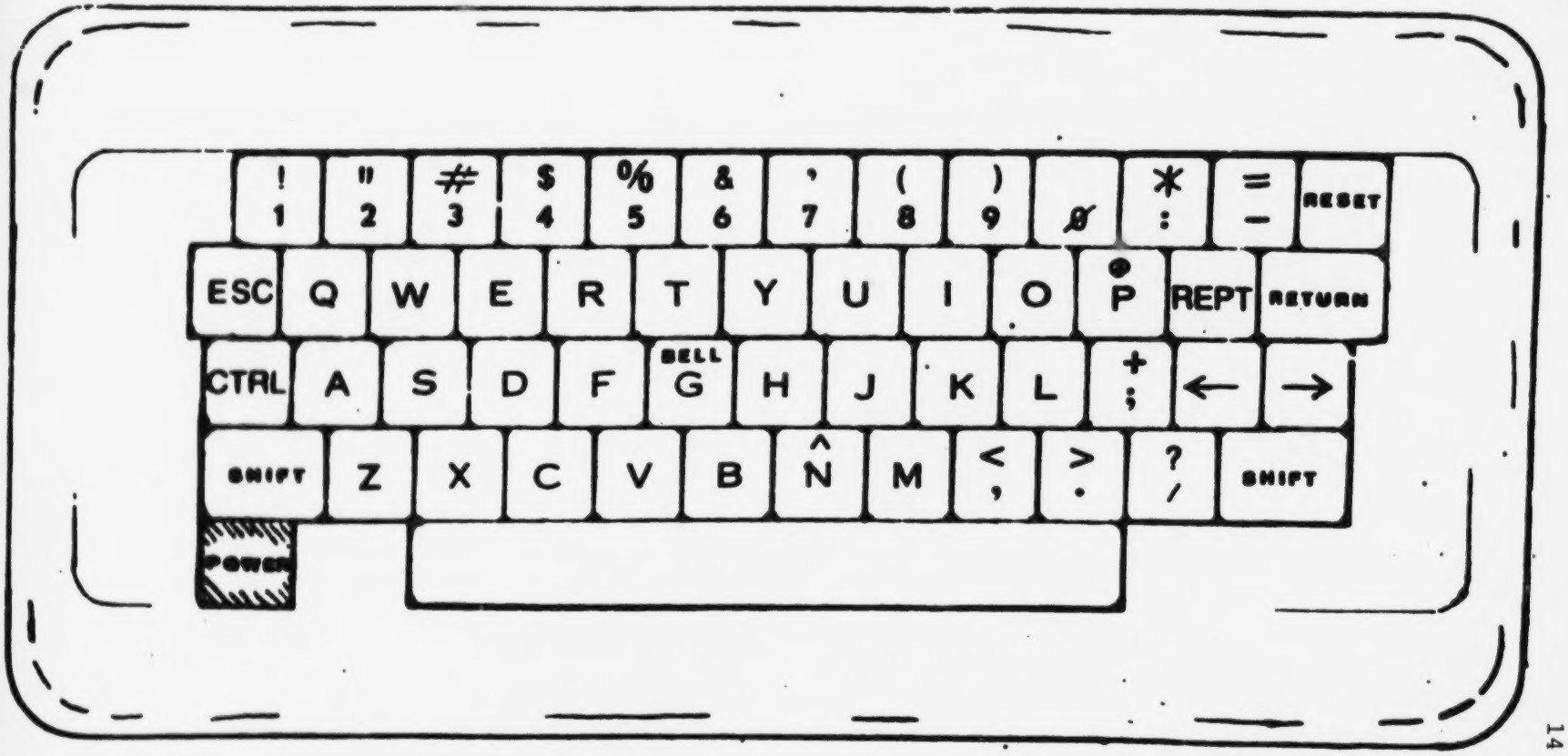
The first four parts are housed in the Apple IIe case. Three other basic parts complete the system.

APPLE PARTS: THE ANATOMY



THE APPLE KEYBOARD

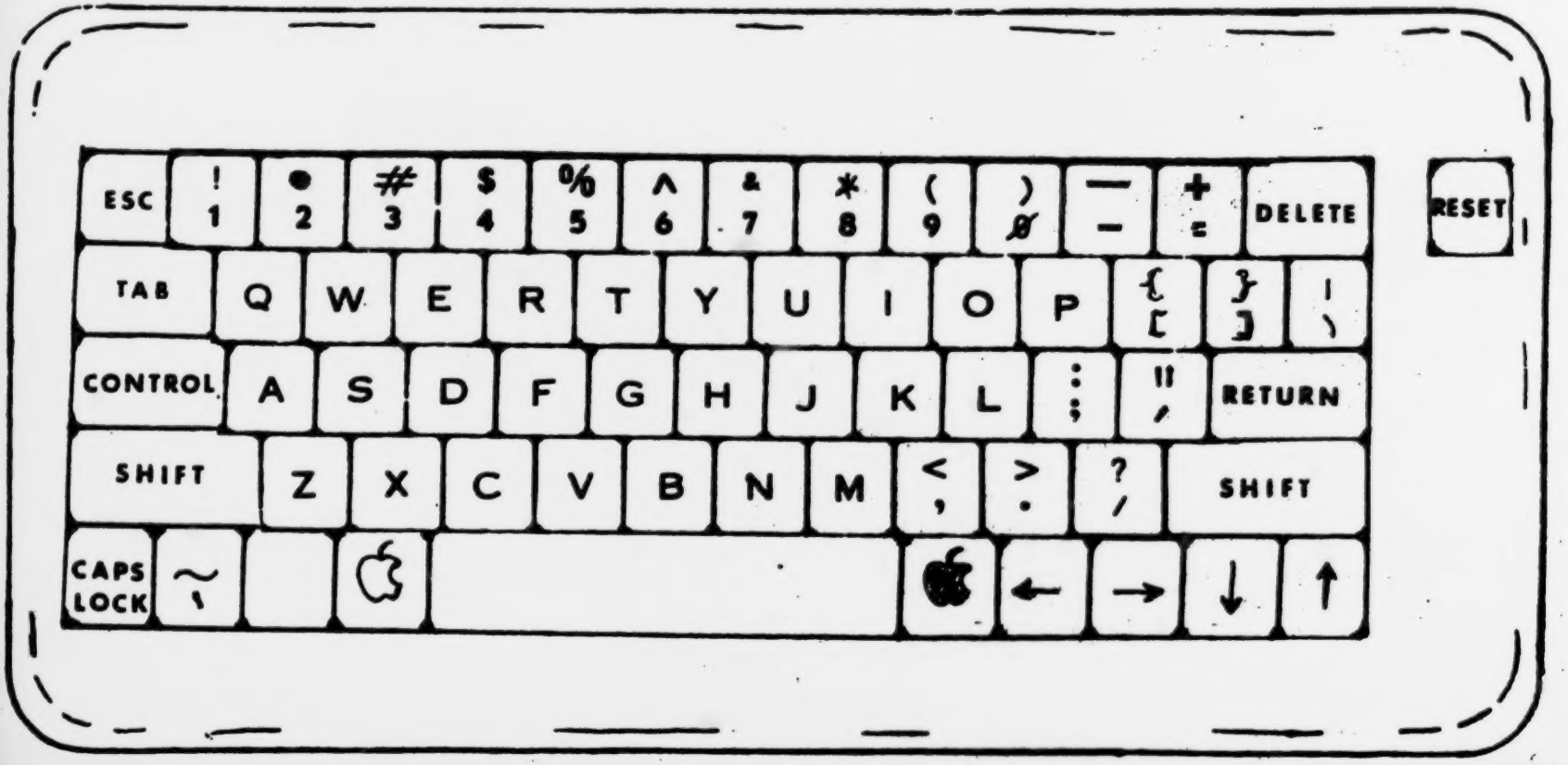
II+



14

THE APPLE KEYBOARD

2e



CARE OF THE APPLE IIE SYSTEM

1. Install your system in a place away from direct sunlight or sources of intense heat or cold.

2. Make sure no moisture gets on the computer or attached devices.

3. Connect the system and attached devices to the same grounded three-wire outlet. Do not use a circuit that is already loaded down with large appliance.

4. Do no block the free circulation of air around and into the vent holes along the sides of the computer case.

5. Avoid letting excessive dust, dirt or cigarette ash fall on or into the computer.

CARE OF DISKETTES

1. Handle the disk by its jacket and label. Never touch the disk itself.

2. To write on a label already attached to a disk jacket, use a felt-tip pen. Do not press hard. It is better to write on the label before attaching it to the disk.

3. Never write on an attached label with a pencil or ball-point pen. This may dent the recording surface, rendering the disk unusable. Also, do not use an eraser on the label. Eraser dust is abrasive and can damage the disk.

4. Store disks upright in their envelopes. Do not bend or attach paper clips to disk.

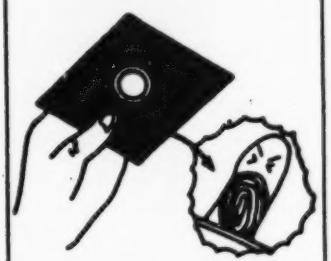
5. Store disks away from direct sunlight, moisture, or extremes of heat and cold.

6. Keep disks away from magnets or electrical devices, especially telephones, television sets, and large motors.

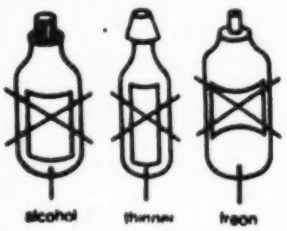
7. It is OK to put disks temporarily on the computer or disk drive.

CARE OF DISKETTES

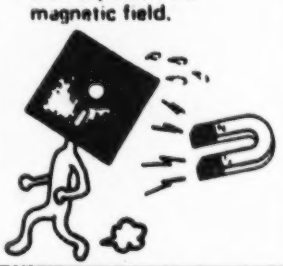
1. Do not touch disk surface. It is easily contaminated, which causes errors.



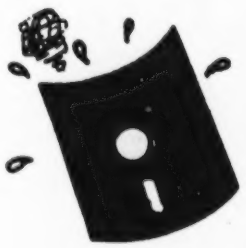
2 Do not use alcohol, thinners or freon to clean disk.



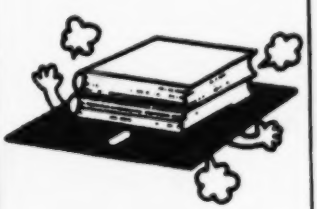
3. Do not use magnets or magnetized objects near the disk.
Data can be lost from a disk exposed to a magnetic field.



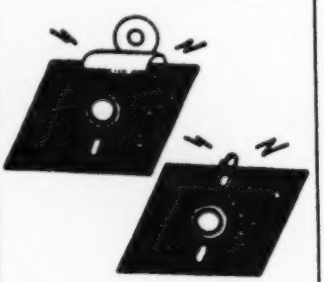
4. Do not bend or fold the disk.



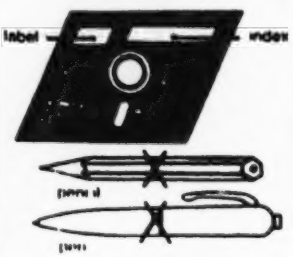
5 Do not place heavy objects on the disk.



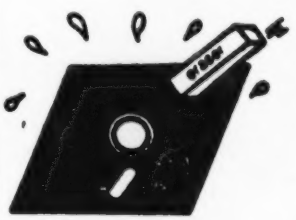
6. Do not use rubber bands or paper clips on the disk.



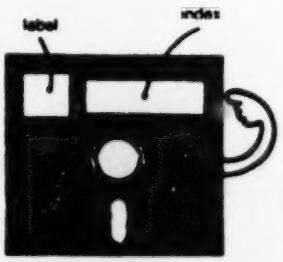
7. Do not write on disk label with pencil or ball-point pen. Use felt-tip pen only.



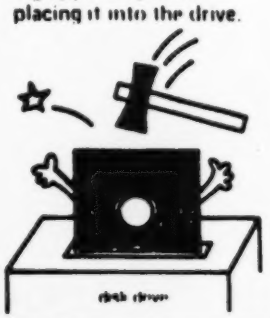
8 Do not use erasers on disk.



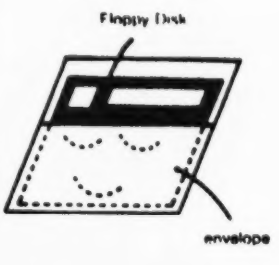
9. Apply index label to the right of our label.
Do not use labels in layers.



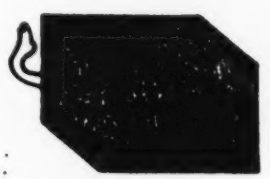
10. Insert carefully, by grasping upper edge and placing it into the drive.



11 Keep disk in its protective envelope when not in use.

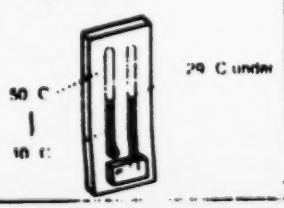


12. Disks not being used should be stored vertically in their box.

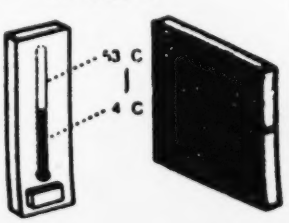


13. Do not expose the disk to excessive heat or sunlight.

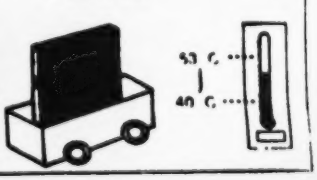
14. Operating environment:
A. Temperature 10°C to 50°C (50°F to 122°F)
B. Wet Bulb Temperature: Less than 29°C
C. Relative Humidity: 20% to 80%



15. Storage environment:
A. Temperature: 4°C to 53°C (40°F to 127°F)
B. Relative Humidity: 8% to 80%)



16. While in transit the disk should be in its envelope in a protective box within the following ranges
A. Temperature: -40°C to 53°C (-40°F to 127°F)
B. Relative Humidity: 8% to 90%

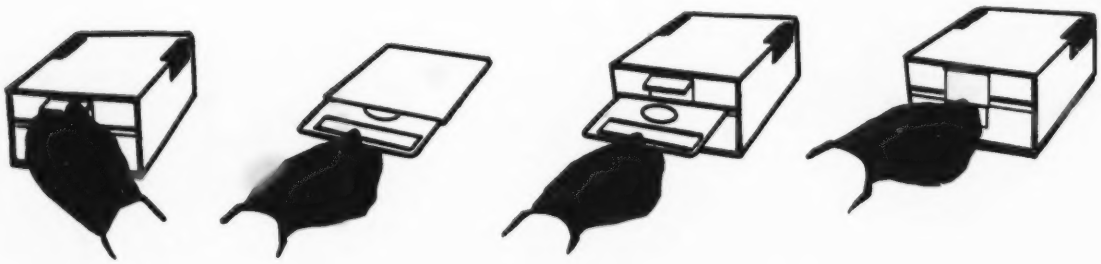


HOW TO START YOUR COMPUTER

Inserting a Disk in a Disk Drive

The following instructions explain what to do any time you want to insert a disk in a disk drive.

1. Make sure that IN USE light on the front of the disk drive is OFF.
2. Lift the small door on the front of the disk drive. If there is already a disk in the slot, carefully remove it, and put it in an envelope.
3. Holding the disk you want to use with your thumb on the label, remove it from its envelope.
4. Gently insert the disk into the slot of the disk drive, oval-cutout end first, label side up. Be careful not to bend or force the disk. If you feel any resistance, pull the disk back out slowly and try again.
5. When the disk is completely inside, push down on the small disk drive door unit it clicks shut.



Starting Up (Booting) the System

Before doing anything else, take a close look at your Apple IIe. It has three important parts. The main unit has a keyboard like the one on a typewriter. On top of the main unit is a monitor. Your system also has a disk drive either in the main unit or separate cabinet. These are the general instructions for starting up the system.

Step 1. Be sure the TV set or monitor is turned on. If there is a volume control, turn it down.

Step 2. Be sure the CAPS LOCK key is in the down position.

Step 3. Insert the disk into the disk drive.

Step 4. If the computer's POWER light is off, just turn the power switch on. To do this, reach with your left hand around the back of the computer. You will feel a small on/off toggle switch. Turn it on. The POWER light should come on.

If the computer's POWER light is on, you can restart the system by pressing and holding down the OPEN-APPLE key. Then press CONTROL key and RESET key and then let go. Finally, let go of the OPEN-APPLE key.

Of course, you can turn the power off and then on again if the compute's power light is on. However, the restart method saves wear and tear on the power switch and the computer's circuits.

Step 5. Watch for this: You will hear a beep, and the POWER indicator on the computer keyboard will light up. The red light on your disk drive should come on. You may hear clicks and whirrs coming out of the disk drive. The red light should turn off. The program loaded from the disk in disk drive will present its opening display on the monitor.

TURNING OFF THE COMPUTER

Step 1: Make sure the disk drive light is off.

Step 2: Remove the disk, put it in its paper envelope and store it vertically.

Step 3: Turn off the monitor and the computer.

RUNNING THE ESL DEMO DISK

To run the ESL demo disk, you need to insert the demo disk into the disk drive and follow the starting up system procedures. After you boot up the program, you should see the welcome message on the screen. The (]) should be at the bottom left of the screen. The flashing cursor means that the computer is waiting for you type somethings. Now type ABCD and then press the RETURN key at the right side of the keyboard.

As you pressed the keys, you should have seen the same letter show up on the screen. The cursor tells you where the next letter will go. After you press the RETURN key, what message do you see?

?SYNTAX ERROR

The question mark before the error message means the message comes from the Applesoft interpreter. SYNTAX ERROR simply means the program couldn't make sense out of what you typed. It usually means you misspelled a command, forgot to use CAPS LOCK, or pressed a control character while typing a command.

Now type TEACHER and press the RETURN key. You will get the SYNTAX ERROR message again because the computer does not understand TEACHER either.

Well, let's learn some basic command and see how we can make the computer do something more interesting.

Type LOAD HI THERE and press return. Be sure to include the spaces in your message.

HI THERE is the name of a program stored on you disk. When you pressed the RETURN key, you should have seen the red light on the disk drive come on. While this was happening, the cursor disappeared. After a few moments, the cursor and the prompt symbol (]) should have reappeared on the screen. Type RUN and press the RETURN key. Answer the question by typing your name and pressing the RETURN key. What do you see on the screen?

Type RUN again and type the RETURN key. Try it again with a friend's name and press the RETURN key. You will have the same screen with your friend's name.

Type NEW and press the RETURN key. Then type RUN and press the RETURN key. What do you see on the screen? Nothing happened because NEW erased HI THERE from the computer. In order to rerun the HI THERE program, you need to type LOAD HI THERE and press RETURN and then type RUN and press RETURN. The original version of program HI THERE is still on the diskette. The LOAD command only loads a copy of the program into the computer.

Let's try these commands again. If you make a typing error, just retype the line. Remember to press the RETURN key at the end of each line.

```
] LOAD ROCKET
] RUN
```

Now you should see a rocket drawn on the screen.

The demo disk contains many programs. Here is how you can discover what is there. Type CATALOG and press RETURN key. The CATALOG command tells the computer to show you the names of the

programs on the disk. You should be able to find HI THERE, ROCKET, MAGIC NUMBERS, and some other program on the list. You may want to try loading each program and running it.

Remember these four commands that you have learned:

LOAD The LOAD command tells the computer to move a copy of a program from the diskette into the computer.

RUN The RUN command tells the computer to perform the program now in the computer. What the computer does after that depends on what program is in the computer.

NEW The NEW command tells the computer to erase the program from the computer, but not from the disk. You will need the NEW command to erase an old program before typing a new one.

CATALOG If you have many programs on a disk, you may not remember exactly what is there. The CATALOG command tells the computer to show you the names of the programs on the disk in the disk drive.

NOTES TO THE BEGINNER

Although you will naturally feel nervous if this is your first time working with a microcomputer, here are three important facts to keep in mind:

1. It is virtually impossible to damage the computer in normal use. Only physical abuse can do that. Do not worry about pressing the wrong keys or making mistakes. The worst thing that might happen would be to lose the current program in memory. If that happens, you need only reload the program.
2. The computer will always do what you tell it to do. Sometimes, though, what you tell it to do is not what you want it to do! The most common error is to misspell a command. That may cause unexpected messages to appear on the screen. Normally, you will need only to reenter the command correctly.
3. Pushing the reset key allows you to "break out" of the program. Occasionally, you may wish to terminate a program prematurely or go back to the beginning: the reset key allows you to do so. Additional information will be found in the next section (STOPPING A PROGRAM).

STOPPING A PROGRAM

Suppose you want to stop a program. Usually the program will offer you that option from time to time, and even tell you how to do it. But to get out of a program at any time, try these six methods, which are listed in order of increasing severity:

1 Press the ESC key. This key is in the upper left-hand corner of your keyboard. Its full name is escape, and if you're lucky, that's what it'll help you do.

2. Press CONTROL-C. Many programs think of CONTROL-C as "cancel."

3. Press CONTROL-C and then RETURN. Some programs don't get the hint unless you reinforce it.

4. Press CONTROL-REST. The program will stop or return to its opening menu and, in most cases, remain in memory, unharmed.

5. Press the OPEN-APPLE key and hold it until you've pressed and let go of CONTROL-RESET. This is the power-on restart procedure and it is pretty drastic. All your current work in main memory is lost in the process.

6. Turn off the power. You will rarely have to go this far to exit from a program. But it's a powerful way to show the computer who's boss. Don't forget, though, all you current work in memory will be lost.

INITIALIZING A DISK

To prepare a new disk for storing data or programs, you must first initialize the disk. The initializing process writes DOS (Disk Operating System) onto the disk, sets up the catalog area and marks the 560 sectors where programs and files will be stored. Initializing a disk containing programs will "wipe it clean" of all old programs.

Step 1: With the Apple power turned off, placed the DOS 3.3 System Master in the disk drive.

Step 2: Turn on the Apple and wait for the following to appear on the screen.

```
DOS VERSION 3.3              08/25/80
APPLE II PLUS OR ROMCARD     SYSTEM MASTER
]
```

Step 3: Take out the System Master and put in the disk to be initialized.

Step 4: Type the following, pressing RETURN after each line:

```
]NEW
]10 HOME
]20 PRINT "THIS DISK BELONGS TO YOUR NAME"
]30 END
]INIT HELLO
```

Wait about 30 seconds until the disk drive light goes off.

Step 5: Check you disk by turning off the Apple, placing you new disk in the drive and then turning on the Apple. The screen should clear and the following should appear:

```
THIS DISK BELONGS TO YOUR NAME

]
```

Step 6: Remove the disk, put it in its paper envelope and write your name on the label using a felt tip pen.

EVALUATING AND SELECTING INSTRUCTIONAL SOFTWARE

As the number of educational software continues to grow, appropriate guidelines to evaluate their worth become increasingly important. All to often instructional software is lacking in quality: missing or inaccurate documentation, inflexibility, inappropriate terminology, mishandled input errors, and poor programming techniques are typical user complains. Frequently, programs are written by noneducators who understand much about programming but little about how people learn. A critical review of available software is necessary to make sure that the programs you use meet your needs and expectations. The National Council of Teachers of Mathematics suggests the following considerations when evaluating and selecting software:

1. **Instructional range.** Key factors in determining a program's grade or ability level include the concepts presented in the program, the reading level, prerequisite skills, degree of student control, and the program's intended instructional use.

2. **Instructional grouping.** Programs designed for individual or small-group use involve direct interaction between student and computer. Those designed for large groups call for the teacher to act as an intermediary.

3. **Execution time.** How long it takes to load and run the program will vary with the equipment, the type of program, and the degree of user control.

4. **Program uses.** Programs may often be used in more than one way. Common uses include drill or practice, tutorial,

simulation, instructional gaming, problem solving, information, demonstration, instructional management or support, test construction and analysis, programming utility, and "whistles and bells"—demonstrations of special features such as screen projection, color, and sound.

5. User orientation from the instructor's point of view. Key considerations are the program's flexibility (that is, whether it can accommodate a range of ability levels) and the amount of intervention or assistance by the teacher it requires.

6. User orientation from the student's point of view. Factors here include the quality of the directions and responses, screen formatting, need for external information, disruption by system error, and simplicity of student input.

7. Content. The program's instructional objectives should be viewed as important by the instructor. The concepts and terms used should be clear and concise, and the content, teaching style, and educational philosophy should be compatible with those of the school.

8. Motivation and instructional style. Such options as game format, graphics, animation, voice and non-voice audio, and light pens can increase student motivation and develop a particular instructional style.

9. Social characteristics. some programs encourage competition or cooperation, while others humanize the computer or introduce moral issues. In addition, programs that provide summaries of student performance may have either a positive or a negative effect on the learner.

A careful consideration of these nine point will help you decide whether a particular program or courseware series fits your instructional program.

The selection of software can be a difficult and frustrating experience for the novice, but help is available:

ACUL Journal, Michigan Association for Computer Users in Learning, c/o Larry Smith, Wayne Intermediate School District, 33500 Van Born Rd., Wayne, MI 48184

School Microware Reviews, Dresden School Microware, Box 246, Dresden, ME 04342

The Journal of Courseware Review, Apple Education Foundation, 20863 Stevens Creek Blvd., Building B-2, Suite A-1, Cupertino, CA 94014.

MicroSIFT, Northwest Regional Educational Laboratory, 300 S.E. Sixth Ave, Portland, OR 97204.

SOFTWARE EVALUATION CHECKLIST

PRODUCT INFORMATION

Name of program_____Price_____

Hardware required_____Audience level_____

Distributor_____

Purpose or objective_____

ANSWER each question below using a "+" for "yes" and "-" for "no".

INSTRUCTIONAL DESIGN

Directions

_____ 1. Are directions shown on the screen and easy to follow?

_____ 2. Are directions available throughout the program?

_____ 3. Can the user run the program with minimal assistance?

Screen Format

_____ 4. Is print size and space between lines acceptable?

_____ 5. Are special text features used to attract attention? (flashing words, underlining, or inverse printing)

_____ 6. Do graphics enhance the program content?

Rate of Presentation

_____ 7. Can the learner adjust the reading rate?

_____ 8. Can the learner exit the program at various points?

_____ 9. Can the learner re-enter the program at exit point?

Learner Interaction with the Program

_____10. Is required input easy to enter?

_____11. Is positive feedback present and appropriate?

_____12. Is negative feedback present and appropriate?

_____13. Does feedback guide learner to the correct responses?

_____14. Is the number of learner responses per item limited to no more than two or three attempts?

_____15. Are required worksheets furnished?

Linear or Branching Programming

_____16. If linear, is the content in proper sequence?

_____17. If branching, is it thorough in providing learner options?

Content Bank

_____18. Is there a bank of items?

_____19. Can the teacher add to the bank of items?

Time

_____20. Does time required for lesson fit your schedule?

Format of Instruction

_____21. Does the format fit the instructional goal?

_____drill and practice _____tutorial

_____informational _____game

Instructional Support

_____22. Is the program easy for the teacher to use?

_____23. Is the hardcopy quality satisfactory?

_____24. Can the teacher save items into a content bank for later use?

Documentation

_____25. Is a teacher's manual available?

_____26. Are directions clear and complete?

_____27. Are program objectives specified?

_____28. Is the lesson content shown in detail? (vocabulary lists, reading selections, etc.)

_____29. Are sample frames from the program shown?

_____30. Are needed forms included?

_____31. Has the program been field tested?

Record Keeping

_____32. Can records be kept for an ample number of students?

_____33. Are responses and progress reported in a usable form?

_____34. Can records be printed on paper?

CONTENT

_____35. Does content focus on a specific objective?

_____36. Is the content accurate?

_____37. Does it fit into the curriculum?

_____38. Is the content taught as you want it taught?

_____39. Is it appropriate for the learner's age and ability?

_____40. Are reading selections interesting for the learner?

_____41. Is the content free of racial, ethnic, sexual and religious bias?

SUMMATIVE EVALUATION

_____42. Does the program deal effectively with the stated objective?

_____43. Does the program support the curriculum?

_____44. Can it be used with the intended age or grade level?

_____45. Can it be used with learners of varying ability levels?

_____46. Can it serve multiple uses, such as introducing, reviewing, or expanding on a skill or concept?

_____47. Does this program present content as well as or better than material already being used?

What are the strengths of the program?_____

_____

_____

What are the significant weaknesses?_____

_____

_____

Describe how the content is presented._____

_____

_____

Describe how the learner reacted to the program._____

_____

_____

COMPUTER GLOSSARY

BASIC: An acronym for Beginners All Purpose Symbolic Instruction Code. A high level programming language designed to be easy to learn and use.

BIT: An abbreviation of "binary digit," either a 1 or a 0 in machine code (binary code).

BOOT: To startup a computer by loading a program into memory from an external storage medium such as a disk.

BYTE: A unit of memory; one "K" equal 1024 bytes, and one byte equals 8 bits. It takes 8 bits to form one character; so one byte is generally equal to one letter, number or graphic symbol.

CATHODE RAY TUBE (CRT): A television-like display screen, also called a video display or monitor; displays the information typed from the computer's keyboard and how the computer reacts to instructions.

CENTRAL PROCESSING UNIT (CPU): The "brain of the computer; it controls all operations of all parts of the computer and does the actual calculations.

COMPUTER ASSISTED INSTRUCTION (CAI): The use of a computer to teach some subject to a human user in an interactive way.

COMPUTER LITERACY: knowing how to use a computer for one's own applications and recognizing other potential uses for the machine.

COMPUTER MANAGED INSTRUCTION (CMI): The use of the microcomputer as a record keeper, diagnostic tester, test scorer, and prescriber of what to learn next.

CURSOR: A marker or symbol displayed on the screen that marks where the users's next action will take effect or where the next character typed from the keyboard will appear.

DEBUG: To go through a program to remove mistakes.

DISK DRIVE: A peripheral device that can store and retrieve information on a disk.

DISKETTE/FLOPPY DISK: A record-like magnetic-coded piece of material that can store programs, data or tables of information. The process is similar to storing music information on a magnetic tape.

DISK OPERATING SYSTEM: The medium through which the program communicates to the computers; it organizes each diskette like a file cabinet and stores information in "disk files," similar to file folders.

DOCUMENTATION: Instructions needed to utilize a piece of software.

HARDWARE: The physical part of the computer (such as the CRT, CPU, memory) as opposed to software.

INPUT: Information transferred into a computer from some external source, such as the keyboard, a disk drive, or a modem.

KEYBOARD: Used to type in information or instructions to the computer; similar to a typewriter's keyboard.

LANGUAGES: A set of conventions (symbols and terms) specifying how to tell a computer what to do.

LOAD: The process of getting the program into the computer's memory.

MACHINE CODE/LANGUAGE: Binary code; the only programming language that a computer can understand directly.

MEMORY: The integrated circuits of a computer which store information. In microcomputers, they are referred to as RAM and ROM.

MENU: A list of choices presented by a program, usually on the display screen, from which the user can select.

MODEM: Modulator/demodulator; a peripheral device that enables the computer to transmit and receive information over a telephone line.

OUTPUT: Information transferred from a computer to some external destination, such as the display screen, a disk drive, a printer, or a modem.

PERIPHERAL: At or outside the boundaries of the computer itself, either physically or in a logical sense.

PROGRAM: A set of instructions which causes the computer to do or complete an operation.

RANDOM ACCESS MEMORY (RAM): Temporary storage of information and software that is entered into the computer (the contents of RAM disappear when the computer is turned off); also called read/write memory because the computer can read its data and write new data into it.

READ ONLY MEMORY (ROM): Permanent storage of essential built-in software (known as firmware), such as the software that tells the computer what to do when it is turned on; the contents of ROM cannot be changed, nor can new data be written into it.

RESOLUTION: The total number of points or individual elements that make up a graphic image; the greater number of elements, the higher the resolution.

RUN: To execute a program.

SOFTWARE: A program, either system software that are used to write and execute other programs or applications software that are used for specific jobs.

SPEECH SYNTHESIZER: A device which allows the computer to produce words and phrases as audible sounds.

SYNTAX ERROR: A message on the computer screen that indicates that the computer does not understand the command entered from the keyboard.

WORD PROCESSING: The entry, manipulation, editing, and storage of text using a computer.

SELECTED ORGANIZATIONS RELATED TO MICROCOMPUTERS AND EDUCATION

It is a good idea to join professional associations that are active in computers and computer education. Most of these groups publish periodicals and hold conferences that may address topics you are interested in. Here is a list of such organizations and associations:

American Association of School Administrators
1801 North Moore Street
Arlington, VA 22209
(703) 528-0700

American Educational Research Association (AERA) -
2236 16 th St., NW
Washington, DC 20046

Apple for the Teacher
c/o Ted Terry
5848 Riddio Street
Citrus Heights, CA 95610

Association for Computing Machinery (ACM)
1133 Ave of the Americas
New York, NY 10036
(212) 265-6309

Association for Educational Communications and Technology
1126 16th Street, N.W.
Washington, DC 20036
(202) 833-4180

Association for Educational Data System (AEDS)
1201 16th Street, N.W.
Washington, DC 20036
(202) 833-4100

Association for the Development of Computer-Based
Instructional Systems (ADCIS)
Bond Hall
Western Washington University Computer Center
Bellingham, WA 98225
(206) 676-2860

Computer-Based Education Research Laboratory
University of Illinois
Urbana, IL 61801

Computer-Using Educators
c/o W. Don McKell
Independence High School
1776 Educational Park Drive
San Jose, CA 95133

Council for Educational Development and Research
1518 K Street, N.W.
Suite 206
Washington, DC 20005

Educational Technology Center
University of California
Irvine, CA 92717
(714) 833-6911

International Council for Computers in Education (ICCE)
Department of Computer and Information Science
University of Oregon
Eugene, OR 97403

Laboratory for Personal Computers in Education
State University of New York
Stony Brook, NY 11094
(516) 246-8418

MicroSIFT
Northwest Regional Educational Laboratory
500 Lindsay Building
710 2nd Ave, S.W.
Portland, OR 91204
(503) 248-6974

Microcomputer Center
San Mateo Educational Resources Center Library
333 Main Street
Redwood City, CA 94063
(415) 363-5469

Microcomputer Education Applications Network
256 North Washington Street
Falls Church, VA 22046

Microcomputer Resource Center
Teachers College
Columbia University
New York, NY 10027
(212) 678-3740

Minnesota Educational Computing Consortium (MECC)
2520 Broadway Drive
St. Paul, MN 55113
(612) 376-1101

National Council of Teachers of English
111 Kenyon Road
Urbana, IL 61801
(217) 328-3870

National Education Association
1201 16th Street, N.W.
Washington, DC 20046

PUBLICATIONS

In addition to the newsletters and journals published by professional organizations, you can subscribe to various monthly magazines and newsletter that will keep you abreast of what's going on in the field, teach you programming techniques, and apprise you of the latest state of the art. The periodicals and journals listed next are representative of the many that are published relating to microcomputer and education.

AEDS Bulletin
Association for Education Data Systems
1126 16th Street, N.W.
Washington, DC 20036

AEDS Journal
Association for Education Data Systems
1126 16th Street, N.W.
Washington, DC 20036

AEDS Monitor
Association for Education Data Systems
1126 16th Street, N.W.
Washington, DC 20036

Apple Education News
P.O. Box 20485
San Jose, CA 95160

Apple Educator's Newsletter
9525 Lucerne
Ventura, CA 93003

BYTE
70 Main Street
Peterborough, NH 03458

Classroom Computer News
P. O. Box 266
Cambridge, MA 02138

Compute and Compute II
625 Fulton Street
Greensboro, NC 27403

The Computing Teacher
Department of Computer and Information Science
University of Oregon
Eugene, OR 97403

Creative Computing
39 East Hanover Ave
Morris Plains, NJ 07950

Educational Computer Magazine
104 North Stelling Road
Cupertino, CA 95014

Educational Technology
140 Sylvan Ave
Englewood Cliffs, NJ 07632

80 Microcomputing
P. O. Box 997
Farmingdale, NY 11737

Electronic Classroom
TEC
150 West Carob Street
Compton, CA 90220

Electronic Learning
Scholastic, Inc.
50 West 44th Street
New York, NY 10036

Interactive Computing
Association of Computer Users
Box 9003
Boulder, CO 80301

Journal of Compute-Based Instruction
8120 Perm Ave, South
Bloomington, MN 55431

Journal of Educational Technology Systems
Society for Applied Learning Technology
120 Marine Street, Box D
Farmingdale, NY 11735

Microcomputing
80 Pine Street
Peterborough, NH 03458

Personal Computing
1050 Commonwealth Ave
Boston, MA 02215

Popular Computing
70 Main Street
Peterborough, NH 03458

T.H.E. Journal
Information Synergy, Inc.
P. O. Box 992
Acton, MA 01720

SAMPLE LISTING OF SOFTWARE VENDORS

The listing of software vendors that follows is but a sampling of the many companies that produce ESL educational courseware for the microcomputer. The list can be used as a beginning reference point for those teachers interested in obtaining software. Many of the companies will provide, free upon request, listings of their courseware materials. Others regularly publish a comprehensive catalog for which there is a charge. A majority of the periodicals related to educational computing and general microcomputer applications contain advertisements and/or listings of software vendors.

Activision, Inc.
2350 Bayshore Parkway
Mountain View, CA 94043
(415) 960-0410

Addison-Wesley
2725 Sand Hill Road
Menlo Park, CA 94025
(415) 854-0300

Automated Language Processing Systems
295 Chipeta Way
Salt Lake City, UT 84108
(801) 584-3000

BrainBank, Inc.
220 Fifth Ave.
New York, NY 10001
(212) 686-6565

Broderbund Software
17 Paul Drive
San Rafael, CA 94903
(415) 492-3200

Combase, Inc.
333 Sibley St., Suite 890
St. Paul, MN 55101
(612) 221-0214

Communication Skill Builders
3130 N. Dodge Blvd., P.O. Box 42050
Tucson, AZ 85733
(602) 323-7500

COMPress, A Div. of Wadsworth, Inc.
P.O. Box 102
Wentworth, NH 03282
(800)221-0419

Compris, Inc.
1 Franeuil Hall Marketplace
Boston, MA 02109
(617) 742-7135

Computer Systems Research, Inc.
Avan Park South
P.O. Box 45
Avon, CT 06001
(800) 922-1190

Davidson & Associates
3135 Kashiwa St.
Torrance, CA 90505
(213) 534-4070

Educational Activities, Inc.
1937 Grand Ave
Baldwin, NY 11510
(516) 223-4666

Educational Skills Corp.
1506 Capital Ave., Suite 101
Plano, TX 75074
(213) 423-0090

Electronic Courseware Systems, Inc.
1210 Lancaster Drive
Champaign, IL 61821
(217) 359-7099

Encyclopaedia Britannica Educational Corp.
425 North Michigan Ave
Chicago, IL 60611
(312)321-6755

Fortune Software Co.,Inc.
70 Sierra Road
Boston, MA 02136
(617) 361-0900

Friend-Lee Software
6041 West View Drive, Suite J
Orange, CA 92669
(714) 771-1678

Gamco Industries, Inc.
P.O. Box 1911
Big Spring, TX 79721
(800) 351-1404

Gorilla Software
6331 Fairmount Ave, Suit 375
El Cerrito, CA 94530
(415) 528-2339

Humanities Software
P.O. Box 590727
San Francisco, CA 94159
(415) 759-9324

INET Corp.
8450 Central Ave
Newark, CA 94560
(415) 797-9600

Instructional/Communications Technology, Inc. (I/CT)
10 Stepar Place
Huntington Station, NY 11746
(516) 549-3000

Intellectual Software
798 North Ave
Bridgeport, CT 06606
(800) 232-2224

Kapstrom, Inc.
5952 Royal Lane, Suite 124
Dallas, TX 75230
(214) 369-1718

Learnco, Inc.
P.O. Box L
Exeter, NH 03833
(603) 778-0813

MECC
3490 Lexington Ave, North
St. Paul, MN 55126
(612) 481-3500

Media Basics
1890 Palmer Ave
Larchmont, NY 10538
(914) 834-2505

Milliken Publishing Co.
1100 Research Blvd., P.O.Box 21579
St. Louis, MO 63132
(314) 991-4220

MorningStar Software, Inc.
P.O. Box 5364
Madison, WI 53705
(608) 233-5056

New Found Software
9040 Aileen Drive
Mentor, OH 44060
(216) 255-4084

Nordic Software, Inc.
3939 North 48th St.
Lincoln, NE 68504
(402) 466-6502

Oryx Press, The
2214 North Central at Encanto
Phoneix, AZ 85004-1483
(800) 457-ORYX

Regents/ALA Company
Two park Ave
New York, NY 10016
(212) 889-2780

Southern Micro Systems
P.O. Box 2097
Burlington, NC 27216-2097
(800) 334-5521

Spiral Learning, a Div. of Psychotechnics
1900 Pickwick Ave
P.O. Box 750
Glenview, IL 60025
(312) 729-5805

Springboard Software, Inc.
7808 Creekridge Circle
Minneapolis, MN 55435
(612) 944-3915

Street Electronics
1140 Mark Ave
Carpinteria, CA 93013
(805) 684-4593

Think Network
P.O. Box 6124
New York, NY 10128
(201) 613-8977

Weekly Reader Software
245 Long Hill Road
Middletown, CT 06457
(203) 638-2400

Writing Consultant, The
P.O. Box 20244
Finance Station
New York, NY 10025
(212) 864-6415

Zephyr Services
1900 Murray Ave
Pittsburg, PA 15217
(412) 422-6600

PUBLIC DOMAIN SOFTWARE

Software enters the public domain when the program's author donates it to a public-domain library. Public domain software is like a cluttered jewelry box—and you are the beneficiary. Whether your interests range from graphics to business or from entertainment to education, public domain software may offer you an alternative to expensive commercial programs. List below is a brief sampling of reference and sources of public domain software.

A.P.P.L.E. Co-op
290 Southwest 43rd Street
Renton, WA 98055

Facts on Files, Inc.
460 Park Ave, South
New York, NY 10016
(212) 683-2244

Firstline Software, Inc.
P.O. Box 5297
Hopkins, MN 55343-2297
(800) 257-9411

Palos Computer Concepts
P.O. Box 560
Palos Park, IL 60464

3A Computer Products
Apple Avocation Alliance
1803 Warren Ave
Cheyenne, WY 82001
(307) 632-8561

Apple Software for Pennies, by Bertram Gader & Manuel V. Warner New York, 1985.

How to Get Free Software, by Alfred Glossbrenner, St. Martin's Press, New York, 1984

LIST OF ESL SOFTWARE INVENTORY AT USM

CLUE IN, the Regents/ALA Company.

COMPOSITION SERIES, Proware, Inc.

CORE READING AND VOCABULARY DEVELOPMENT PROGRAM, Educational Activities, Inc.

DESCRIPTIVE READING I, Educational Activities, Inc.

DESCRIPTIVE READING III, Educational Activities, Inc.

ECHO + SPEECH SYNTHESIZER, Street Electronics.

ELEPHANT EARS, Ballard & Tighe, Inc.

ENGLISH BASIC VOCABULARY BUILDER ON COMPUTER, National Textbook Company.

MATHEMATICS WORD PROBLEMS GRADE 6, Intellectual Software, Inc.

PARLANCE, the Language Company.

PRINT SHOP, Broderbund Software.

READING WITH CAPTAIN YES, Addison-Wesley Publishing Company.

SELECTIONS FROM THE CAI ESL SERIES, the Regents/ALA Company.

SENTENCE MAKER, American Language Academy.

TIC-TAG SPELL, Southwest Edpsych Services, Inc.

TOEFL PREP, Prentice-Hall

WHERE IN THE WORLD IS CARMEN SANDIEGO, Broderbound Software Inc.

WORD ROULETTE, the Regent/ALA Company.

WRITER RABBIT, the Learning company.

CLUE IN

Publisher/Vendor: The Regents/ALA Company

Computer System Requirements: Apple II family with 64K RAM, DOS 3.3 and a single disk drive.

Subject: Vocabulary Game

Objective: To provide students with individualized, interactive vocabulary practice and to enable teachers to develop vocabulary word lists and categories specific to their students' needs.

Grade Level: Beginning level students of English

Description:

The Clue In games provide practice in vocabulary, word-building, and making inferences. It includes four game files ready for immediate use--Sports and Hobbies, Miscellaneous, Foods, and Household Items. In addition, The Clue In comes with the Teachers' Utility which allows you to make up your own sets of words or change any sets which you have already created. At any given point in your course, you can give your students the vocabulary they need to practice by creating an exercise file containing the words you want to be sure they know. You can create up to 6 additional game files of your own, each one containing up to 30 records.

Operating Instructions:

1. Insert the Clue In disk into the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments. Follow the instructions and type the information asked for on the screen. (For Apple IIe users, be sure that the CAPS LOCK key is DOWN all the time that you are using Clue In on the computer.)
3. Choose from the Menu the number of the item you would like to do and follow the instructions.
4. If you need help or want to leave the game, you can press any of these keys any time the SPACE BAR message is on the screen:
   "H" = Help (see the rules again).
   "M" = Go back to the Menu.
   "Q" = Quit the game.
5. To access to the Teacher's Utility, press "CTRL-T" when the computer asks you for your name or when the first Main Menu is on the screen and you are asked to select a letter. When you have finished using the Teachers' Utility, simply choose "Q" (Quit) or "P" (Play the Game as a Student) from the Menu.

COMPOSITION SERIES

Publisher/Vendor: Proware, Inc.

Computer System Requirements: Apple IIe with 64K RAM

Subject: Composition

Objective: Give students practice in recognizing the four types of phrases through identifying them in sentence context.

Grade Level: Secondary school level

Description:

PRACTICING WITH PHRASES is one of the composition series offered by Proware, Inc. The program consists of two disks. Each disk begins with a menu where students can choose to take a Pre-Test, do a lesson, or take the Unit Test. There are 3 lessons in Disk 1: Recognizing Phrases, Prepositional Phrases and Infinitive Phrases. Disk 2 contains 2 lessons: Participle Phrases and Gerund Phrases. Each lesson give the student some practice in learning how to use phrases by (1) restructuring dependent clauses into phrases, and (2) combining two simple sentences by restructuring one into a phrase. The student actually types the phrase that is needed to complete the context of a new sentence.

Operating Instruction:

1. Insert the Unit 1 or Unit 2 into the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments.
3. Make sure the CAPS LOC key is pressed DOWN.
4. Follow the instructions and type the information asked for on the screen.
5. Select from the Menu the number of the item you would like to do and follow the instructions.
6. If at any time you must leave without finishing the drills and test, turn off the computer and take out the disk. Remember, if you do this while taking a test, you must re-take the whole test.

CORE READING & VOCABULARY DEVELOPMENT PROGRAM

Publisher/Vendor: Educational Activities, Inc.

Computer System Requirements: Apple II family with 64K RAM. Echo or Cricket speech synthesizer is optional.

Subject: Vocabulary and Reading

Grade Level: Primary students or beginning level students of English.

Description:

This program emphasizes the processes embedded in the total reading act. It is interactive and versatile tutorial program that supplements classroom teaching and provides extensively guided drill and practice in the core vocabularies used by many reading textbooks. The program contains four lessons with each lesson offers nine activities. The nine activities in each lesson are varied and sequenced to progress from recognition to recall. The program has a management system which keeps track of students' progress by retaining the latest points score and the number of attempts for each activity. In addition, there are between 10 and 12 featured words included on each lesson. These featured words can be heard through the speech synthesizer.

Operating Instructions:

1. Insert the lesson disk into the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments.
3. The program will execute and the company logo will be displayed. Follow the instructions and type the information asked for on the screen.
4. Select from the Menu the number of the activity you would like to do and follow the instructions.
5. If you would like to stop in the middle of a program, press "CTRL-C" and RETURN. This will bring you back the the PROGRAM MENU.
6. All sound effects may be turn off or on at any point throughout each lesson by pressing "CTRL-S".
7. To return to the introductory remarks, press the "CTRL" key and the "RESET" key simultaneously.
8. If you wish to use a different lesson disk, place it in the disk drive and press the "CTRL" key and the "RESET" key simultaneously.
9. To view the students records, type in the command "Scores" when the computer displays "Please type your first name and then press RETURN (or ENTER)."

DESCRIPTIVE READING I

Publisher/Vendor: Educational Activities, Inc.

Computer System Requirements: Apple II family with 64K RAM.

Subject: Reading

Objective: To develop reading skills through the practice of reading paragraphs, sentences, charts and maps.

Grade Level: Grades 1.5 - 5.5

Description:

This series is a diagnostic, prescriptive, tutorial reading program that will diagnose the reading skills of each student, prescribe what is needed for improvement, and evaluate performance at each level before directing the student to the next program. Descriptive Reading I addresses reading development in five major skill areas: Details, Inference, Main Idea, Sequence and Vocabulary. Each of the five skill-area disks contains four instructional levels. Each level in each skill area level roughly corresponds to a reading difficulty level for the appropriate number grade. The Diagnostic Tests disk contains a test for each of the skill areas. The tests measure the student's proficiency in the skill areas and provide the basis for each student's prescription. Descriptive Reading I includes a management system which not only records a student's progress on a disk but will also remediate or advance the student through the skill area without teacher intervention. The teacher can obtain individual scores, a summary of scores, or print out of a summary for all the diagnostic results.

Operating Instructions:

1. Insert the disk into the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments.
3. The program will execute and the company logo will be displayed. Follow the instructions and type the information asked for on the screen.
4. Select from the Menu the number of the activity you would like to do and follow the instructions.

5. If you would like to stop in the middle of a program, press "CTRL-C" and RETURN. This will bring you back the PROGRAM MENU.
6. To return to the introductory remarks, press the "CTRL" key and the "RESET" key simultaneously.
7. If you wish to use a different lesson disk, place it in the disk drive and press the "CTRL" key and the "RESET" key simultaneously.
8. If a student attempts to take a diagnostic test more than one, the message "Please call our teacher." will appear on the screen. You must press the "CTRL-A" so that you has the option to have the student take a test over, take a different test, or exit the program.
9. To see how each student has performed in the diagnostic tests and a skill area, types in "scores" when the message "Please type in your first name and then press RETURN." is on the screen.
10. After you has tested the students on the diagnostic disk, scores must be entered on each corresponding SKILL AREA disk by inserting the SKILL AREA disk and typing in "start" when the computer asks for a first name. Follow the instruction to enter the student's name and initial starting level which was recommended by the diagnostic test. When all the students have been entered on the disk, types in "stop."
11. If you desires to change either an initial or present level of a student already on the file, you can insert the SKILL AREA disk and types in "start" when the computer asks for a first name.
12. Each skill area disk will hold approximately 50 students. If the disk should become full, the message "The disk is full. Please purge a number of your students from the file." will appear on the screen. To purge or delete an individual score or the entire class record from a disk, type in "purge" when the program asks for a first name.

DESCRIPTIVE READING III

Publisher/Vendor: Educational Activities, Inc.

Computer System Requirements: Apple II family with 64K RAM.

Subject: Reading

Objective: To develop reading skills through the practice of reading paragraphs, sentences, charts and maps.

Grade Level: Grades 6 - 10

Description:

This series is a diagnostic, prescriptive, tutorial reading program that will diagnose the reading skills of each student, prescribe what is needed for improvement, and evaluate performance at each level before directing the student to the next program. Descriptive Reading III addresses reading development in four major skill areas: Inference, Vocabulary, Details and Main Idea. Each of the four skill-area disks contains five instructional levels. Each level in each skill area level roughly corresponds to a reading difficulty level for the appropriate number grade. The Diagnostic Tests disk contains a test for each of the skill areas. The tests measure the student's proficiency in the skill areas and provide the basis for each student's prescription. Descriptive Reading III includes a management system which not only records a student's progress on a disk but will also remediate or advance the student through the skill area without teacher intervention. The teacher can obtain individual scores, a summary of scores, or print out of a summary for all the diagnostic results.

Operating Instructions:

1. Insert the disk into the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments.
3. The program will execute and the company logo will be displayed. Follow the instructions and type the information asked for on the screen.
4. Select from the Menu the number of the activity you would like to do and follow the instructions.

5. If you would like to stop in the middle of a program, press "CTRL-C" and RETURN. This will bring you back the PROGRAM MENU.
6. To return to the introductory remarks, press the "CTRL" key and the "RESET" key simultaneously.
7. If you wish to use a different lesson disk, place it in the disk drive and press the "CTRL" key and the "RESET" key simultaneously.
8. If a student attempts to take a diagnostic test more than one, the message "Please call our teacher." will appear on the screen. You must press the "CTRL-A" so that you has the option to have the student take a test over, take a different test, or exit the program.
9. To see how each student has performed in the diagnostic tests and a skill area, types in "scores" when the message "Please type in your first name and then press RETURN." is on the screen.
10. After you has tested the students on the diagnostic disk, scores must be entered on each corresponding SKILL AREA disk by inserting the SKILL AREA disk and typing in "start" when the computer asks for a first name. Follow the instruction to enter the student's name and initial starting level which was recommended by the diagnostic test. When all the students have been entered on the disk, types in "stop."
11. If you desires to change either an initial or present level of a student already on the file, you can insert the SKILL AREA disk and types in "start" when the computer asks for a first name.
12. Each skill area disk will hold approximately 50 students. If the disk should become full, the message "The disk is full. Please purge a number of your students from the file." will appear on the screen. To purge or delete an individual score or the entire class record from a disk, type in "purge" when the program asks for a first name.

ELEPHANT EARS

Publisher/Vendor: Ballard & Tighe, Inc.

Computer System Requirements: Apple II+ or IIe with 48K RAM, DOS 3.3 and a single disk drive. Echo+ Speech Synthesizer is optional.

Subject: Prepositions

Objective: To reinforce spatial concepts for the ESL students while teaching common prepositions.

Grade Level: Grades 1 - 8

Description:

The Elephant Ears Program reviews and reinforces spatial concepts that have been initially presented and taught by the teacher. There are three parts on the disk. Each teaches and tests five prepositions through animation which involves animals moving in relationship to other animals and things. The students not only hear the prepositions alone and in a sentence, they see them demonstrated.

Operating Instructions:

1. Insert Elephant Ears disk in the disk drive and CLOSE the disk drive.
2. Check that CAPS LOCK key is down.
3. Turn ON the computer and the monitor and wait for a few moments.
4. Program will begin automatically and will move through the title and credit frames. Type in your name and menu will appear on the screen.
5. The SPACE BAR moves the highlight to choose the answer.
6. The RETURN key continues the program.
7. For review, listen to all three answers and choose the correct one with highlighter. Press RETURN.
8. When finished, moves the highlight to "END" on the menu and press "RETURN". Then take out the disk and turn off the computer and the monitor.
9. To view student scores, go to any one of the three presentations of the menu and press "R" for Report Section. Type in "CAI" for the password and follow the instructions on the screen.

ENGLISH BASIC VOCABULARY BUILDER ON COMPUTER

Publisher/Vendor: National Textbook Company

Computer System Requirements: Apple II+ or IIe with 48K RAM, DOS 3.3 and a single disk drive.

Subject: Vocabulary

Objective: To review and reinforce vocabulary learned in an ESL/EFL course.

Grade Level: Beginning level students of English

Description:

The Basic Vocabulary Builder on Computer Program is based on the Basic Vocabulary Builder Duplicating Master Book by Dorothy G. Liebowitz. The computer program consists of 23 lessons that reinforce 272 common nouns, adjectives, and verbs. Each of the lessons covers one facet of everyday life and teaches 10 to 12 words with graphically illustrated in full color.

Operating Instructions:

1. Insert the lesson disk (Lesson 1-12 are on disk one; Lesson 13-23 are on disk two) in the disk drive and CLOSE the disk drive.
2. Check that CAPS LOCK key is down.
3. Turn ON the computer and the monitor and wait for a few moments.
4. Type in the lesson number to choose a lesson. Press RETURN to start the lesson.

MATHEMATICS WORD PROBLEMS

Publisher/Vendor: Intellectual Software, Inc.

Computer System Requirements: Apple II family with 64K RAM.

Subject: Mathematics

Objective: To teach students how to analyze and solve mathematical word problems in a logical, step-by-step process.

Grade Level: Grade 6

Description:

The Mathematics Word Problems allows students to solve each word problem step by step: determining the correct algorithm or algorithms, translating each problem into mathematical formulas, estimating the correct answer, and finally, solving the problem. The program provides immediate feedback, positive reinforcement and non-punishing remediation in the form of hints and complete explanations. The program has the management system which can save for up to ten students' scores at a time.

Operating Instructions:

1. Insert the disk in the disk drive and CLOSE the disk drive.
2. Check that CAPS LOCK key is down.
3. Turn ON the computer and the monitor and wait for a few moments.
4. Press any key to continue when the small square appears on the screen.
5. When prompted, type in your name and follow the instructions on the screen.
6. Type in the code of the module you want (for example, L 15). Press RETURN to start the lesson.
7. To exit from a lesson without finishing, press the ESCAPE key (ESC) instead of entering an answer. ESCAPE will not work if it is pressed when the prompt appears.
8. You can load the teacher management system at any point before or after a lesson module.
   For Apple II and II+ computers, press down the CONTROL key. While continuing to hold down the CONTROL KEY, press down both the SHIFT and the M keys. Release the keys when LOADING MANAGEMENT SYSTEM appears on the screen.
   For Apple IIe and IIc computers, press down the CONTROL key. While continuing to hold down the CONTROL key, press down the right bracket (]) key. Release the keys when LOADING MANAGEMENT SYSTEM appears on the screen.

PARLANCE

Publisher/Vendor: The Language Company

Computer System Requirements: Apple II family with 64K RAM

Subject: Vocabulary and Grammar

Objective: To teach students from the basics of English to the most advanced grammatical situations.

Grade level: Secondary school level

Description:

Parlance can be used either as a remedial support tool for students having difficult with specific areas of vocabulary or grammar or as an integral part of the students' regular course work. Parlance consists of five series with 180 lessons. The lessons may be used to provide students with specific help in areas where they show a significant weakness, regardless of the level of the student. If ECHO voice synthesizer is available on the computer, each vocabulary word appears in the review portion of the vocabulary exercises can be heard with an accurate, natural female voice. In addition, Parlance has a management system which keeps track of students' progress by recording the scores of each lesson.

Operating Instructions:

1. Insert the lesson disk and close the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments.
3. The monitor will display a List of Tasks. Choose the task by pressing the appropriate lesson number.
4. Enter the student number that assigned by your teacher and then proceed the lesson by following the instructions on the screen.
5. Press the SPACE bar if at any time you wish to review the preceding question during the exercise portions of Vocabulary and Grammar.
6. Press Q when all the questions are completed, or when you want to quit. The score will be recorded on the disk and the results will be displayed on the screen.
7. To view student scores, insert the the teacher's disk and then turn the computer on. At the prompt, insert the appropriate lesson disk. The results of each student who used that disk will be displayed by student number.
8. To erase the results from the lesson disk, turn off the computer, insert the DOS disk, and turn the computer back on. Then insert the lesson disk into the computer and type DELETE Z001 (or appropriate lesson number).

THE PRINT SHOP

Publisher/Vendor: Broderbund Software

Computer System Requirements: Apple II family with 64K RAM.

Subject: Teacher Assistance

Description:

The Print Shop allows you to write, design, and print as though you owned your own personal print shop. It gives you everything you need to design and print out your own greeting cards, invitations and announcements, stationery and letterhead, banners, signs, and screen images.

Operating Instructions:

1. Insert The Print Shop disk into the disk drive and close the disk drive door.
2. Turn ON the computer and the monitor.
3. To select a particular option on the menus, simply press the arrow keys to move up and down through the list. Once your selection is highlighted, press RETURN.
4. At any time you may backtrack to review or change any earlier answers by pressing ESC key once or more times.

READING WITH CAPTAIN YES

Publisher/Vendor: Addison-Wesley Publishing Company

Computer System Requirements: Apple II family with 64K RAM.

Subject: Reading

Objective: To reinforce and improve students' reading and language skills.

Grade Level: Grades 2 - 6

Description:

Reading with Captain Yes is designed to reinforce and improve students' vocabulary, reading comprehension, and problem-solving skills through high-interest, motivating learning activities. The software contains eight student units and a management system that automatically monitors and records students' performance. Each student unit consists of two main sections: The Reading Machine and The Story Teller. The software program is supported by a student workbooks with activities that introduce, reinforce, and extend each unit.

Operating Instructions:

1. Put the program disk in the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments.
3. Select from the Menu the number of the activity you would like to do and follow the instructions.
4. At virtually any point, you can quickly leave the program by pressing the ESC key.
5. To gain access to the teacher's utilities, press CONTROL-T when you are in the Main Menu section of the program. (If you are not in the Main Menu, you can quickly move back to the Main Menu from other sections of the program by first pressing the ESC key and then choosing to "do something new."

SELECTIONS FROM THE CAI ESL SERIES

Publisher/Vendor: The Regents/ALA Company

Computer System Requirements: Apple II family with 48K RAM, DOS 3.3 and a single disk drive.

Subject: Vocabulary and Grammar

Description:

The Selections disk is a demo disk which contains exercises taken from five main Regents/ALA courses: Vocabulary Mastery--Series A and B and Grammar Mastery--Series A, B and C. Most exercises in the disk have from four to six questions, while exercises in a complete course have at least ten questions.

Operating Instructions

1. Put the Selections disk in the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments. Follow the instructions and type the information requested on the screen.
3. To access SCORE RECORDING AND MANAGEMENT (Teacher's Option), press CTRL-TTTT when the computer asks how many people are going to use the lesson.
4. To customize the sound effects, press CTRL-T when the computer asks how many people are going to use the lesson.
5. Choose a course from the first menu, then choose a specific exercise from the second menu.
6. To return to the menu before finishing a complete exercise, press CTRL-Q any time the "Space Bar" message appears.
7. When finished, choose STOP and follow the instructions on the screen.

SENTENCE MAKER

Publisher/Vendor: American Language Academy

Computer System Requirements: Apple IIe or IIc with 48K RAM and an 80-column card.

Subject: Grammar

Objective: To teach or reinforce sentence construction and grammar.

Grade Level: Beginning level students of English

Description:

Sentence Maker is a language discovery game in which learners choose words from a chart to create grammatical and meaningful sentences. The teacher can select and/or create a slate of up to ten games at a time for the student to work with. Sentence Maker consists of a program disk and three library data disks. The program disk is the core of the Sentence Maker system. It contains the program for the game and the authoring, a Playing List, and some recordkeeping capabilities. Library data disk stores all the games. Each disk can hold up to 50 games. You only need the program disk to play the game and you cannot play a game directly form the library data disk. To play a game stored on a library data disk, it must first be transferred from the library disk to the program disk.

Operating Instructions:

1. Insert the Sentence Maker program disk into the disk drive and CLOSE the disk drive door.
2. TURN ON the computer and monitor and wait for about 20 seconds. Be sure that the CAPS LOCK key is DOWN all the time.
3. After the graphic screen and the title screen are displayed, press the SPACE bar and wait about 10 seconds.
4. Press 1 to play Sentence Maker and follow the instruction.
5. Press CONTROL + Q to quit or go back to the menu at any time while playing.
6. The Sentence Maker contains an authoring system which gives teacher flexibility to create new games, edit existing games, change the games, and keep student records. To assess the Main Authoring Menu, follow the Operating Instruction 1 and 2 to boot up the Sentence Maker program disk. Press CTRL + T after the first graphics screen is displayed. Then select an appropriate option and follow the instructions.

TIC-TAC-SPELL

Publisher/Vendor: Southwest EdPsych Services, Inc.

Computer System Requirements: Apple II family with 48K RAM. Echo+ Speech Synthesizer is optional.

Subject: Spelling Game

Objective: To transform spelling into a self-directed learning activity and to motivate students to succeed.

Grade Level: Grades 2-12

Description:

Tic-Tac-Spell makes spelling an interesting and motivating activity. It can be played by one or two students. It speaks with an accurate, natural female voice in conjunction with the Echo+ speech synthesizer. Tic-Tac-Spell contains 59 sets of spelling words with each set having 20 spelling words. The first 20 word sets were matched to grade difficulty tables and therefore provide a steady progression from grade two through grade eight. The spelling words found in set 21-45 represent a core vocabulary of approximately 80% of the words most frequently used in written English. Spelling demons are listed in word sets 46-59. The spelling words used in Tic-Tac-Spell can be listed, printed and changed through the Editor program.

Operating Instructions:

1. Put the Tic-Tac-Spell disk in the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments. Follow the instructions and type the information requested on the screen.
3. You may stop playing Tic-Tac-Spell by pressing the CTRL and RESET keys when the computer asks a question.
4. If you play against the computer, you may change the computer's playing skill by pressing the ">" key when the computer asks which door to open. The computer can play at 9 skill levels. A level of 1 is the easiest to beat. At level 9 the computer will be almost unbeatable.
5. You can customize the program and insert your own spelling words by selecting the Editor on the menu.

TOEFL PREP

Publisher/Vendor: Prentice-Hall

Computer System Requirements: Apple II family with 64K RAM.

Subject: TOEFL

Description:

This TOEFL series is a diagnostic, prescriptive, tutorial program that will diagnose the English level of each student, prescribe what is needed for improvement, and evaluate performance at each of the exercise. The TOEFL series contains a Diagnostic disk, three Structure Exercises disks, and two Vocabulary Exercises disks. To use the TOEFL PREP, you must first do a diagnostic test on Disk One. After the diagnostic test, you may look at your PERSONAL STUDY PLAN (PSP). The PSP will tell you where you made mistakes on the diagnostic test and where you need further study. The PSP has three screens that correspond to the three exercise disks. You should choose an exercise to study, remove the DIAGNOSTIC TESTS DISK (Disk One) and insert one of the exercise disks (Disk Two, Three, or Four.) Then type the number that corresponds with the number of the exercise and press RETURN. You can use the VOCABULARY DISKS (Disk Five and Six) on their own without doing a diagnostic test.

Operating Instructions:

1. Put the TOEFL PREP disk in the disk drive and CLOSE the disk drive.
2. Turn ON the computer and the monitor and wait for a few moments.
3. Select from the Menu the number of the activity you would like to do and follow the instructions.

WHERE IN THE WORLD IS CARMEN SANDIEGO

Publisher/Vendor: Broderbund Software

Computer System Requirements: Apple II family with 64K RAM.

Subject: Exploration Game

Description:

The thief is hiding out in one of 30 cities. Your job is to track him or her down, using clues you unearth along the way. Clues can point to the city itself or the country in which the city is located. There are 10 possible suspects, any one of whom could be the thief.

Operating Instructions:

1. Insert the Where in the World is Carmen Sandiego disk, label side up (Side A), into the disk drive and CLOSE the drive door.
2. Turn ON the computer and monitor.
3. The program will load into memory and begin an animated introduction.
4. After you've watched the introduction, remove the disk from the drive, turn it over to Side B, put it back in the drive, and close the disk drive door.
5. When you're ready, press any key to begin the game.
6. List your current rank at the Acme Detective Agency by pressing CONTROL-L.
7. Press CONTROL-D to delete a detective's name from Interpol's files.
8. Press CONTROL-S to toggle sound on/off.
9. Press CONTROL-I to toggle joystick/keyboard control.
10. Press CONTROL-R to end current game and starts a new one.
11. Press CONTROL-F to view the Detective Hall of Fame.

WORD ROULETTE

Publisher/Vendor: The Regent/ALA Company

Computer System Requirements: Apple II family with 64K RAM, DOS 3.3 and a single disk drive.

Subject: Word Recognition Strategy Game

Objective: To provide students with practice in vocabulary, spelling, or logical thinking, or some combination of these.

Grade Level: Beginning level students of English

Description:

Word Roulette provides practice in vocabulary, word-building, word-recognition, and context guessing. It includes four game files ready for immediate use--On the Telephone, At a Party, In a restaurant, and In a Store. Each file contains short phrases that students of English might need to communicate in that context. All of the games have a "Teachers' Utility" component. It allows you to make up your own sets of words or phrases or to change any sets which you have already created. You can create up to 6 additional game files of your own, each one containing up to 30 records.

Operating Instructions:

1. Insert the Word Roulette disk into the disk drive and CLOSE the disk drive door.
2. Turn ON the computer and the monitor and wait for a few moments. Follow the instructions and type the information asked for on the screen. (For Apple IIe users, be sure that the CAPS LOCK key is DOWN all the time that you are using Word Roulette on the computer.)
3. Choose from the Menu the number of the item you would like to do and follow the instructions.
4. If you need help or want to leave the game, you can press any of these keys any time the SPACE BAR message is on the screen:
   "H" = Help (see the rules again).
   "M" = Go back to the Menu.
   "Q" = Quit the game.
5. To access to the Teacher's Utility, press "CTRL-T" when the computer asks you for your name or when the first Main Menu is on the screen and you are asked to select a letter. When you have finished using the Teachers' Utility, simply choose "Q" (Quit) or "P" (Play the Game as a Student) from the Menu.

WRITER RABBIT

Publisher/Vendor: The Learning Company

Computer System Requirements: Apple IIe/IIc with 64K RAM.

Subject: Writing

Objective: To develop writing skills and reinforce reading abilities.

Grade Level: Grades 2 - 4

Description:

Writer Rabbit is a playful and imaginative educational program that helps students learn early writing and reading skills. Through a series of six sequenced games, students learn the fundamentals of sentence construction step by step. The first five games are sequenced to build on and reinforce the skills from the games that precede them. The last game provides students with an opportunity to be creative and use what they have learned to write their own stories. The games can be customized to student's ability by selecting vocabulary level, sentence length and game speed. Writer Rabbit has a record-keeping system to monitor student's progress and assess strengths and weaknesses. In addition, the program can print out stories, letters, record-keeping data and award certificates.

Operating Instructions:

1. Insert the Writer Rabbit disk into the disk drive, Side 1 up, and CLOSE the disk drive door.
2. Turn ON the computer and the monitor.
3. After a few second, a window appears prompting you to select a level for the games. (Level A for 2nd grade reading level, Level B for 3rd grade reading level, and Level C for 4th grade reading level)
4. Choose an appropriate game level by using the ARROW keys to highlight the level you want and press SPACEBAR to select it. The window then disappears and the Main Menu is displayed.
5. The Main Menu lists the six games in the program, as well as the Sentence Hints tutorial and Special Features. The sentences Hints explains about the different sentence parts and about complete sentences. The Special Features allow you to set game options, to work with scores and stories, and to print the scores, stories, and award certificates.

6. Select the game from the Main Menu by moving the ARROW keys and then press SPACEBAR. Follow the instructions on the screen and play the game.
7. Press ? if you need help during the game at any time.
8. Press the ESC key to the previous menu or screen.
9. Press CONTROL + S to turn the sound off or on.
10. Press CONTROL + T to turn the timer off or on.